
	Division of Environmental Health and Communicable Disease Prevention	
	<b>Section: 4.0 Diseases and Conditions</b>	Revised 11/03
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## Hansen's Disease (Leprosy)

### **Overview**<sup>(1, 2)</sup>

For a complete description of Hansen's disease, refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.

### **Case Definition**<sup>(3)</sup>

#### *Clinical description*

A chronic bacterial disease characterized by the involvement primarily of skin as well as peripheral nerves and the mucosa of the upper airway. Clinical forms of Hansen disease represent a spectrum reflecting the cellular immune response to *Mycobacterium leprae*.

The following characteristics are typical of the major forms of the disease:

- *Tuberculoid*: one or a few well-demarcated, hypopigmented, and anesthetic skin lesions, frequently with active, spreading edges and a clearing center; peripheral nerve swelling or thickening also may occur
- *Lepromatous*: a number of erythematous papules and nodules or an infiltration of the face, hands, and feet with lesions in a bilateral and symmetrical distribution that progress to thickening of the skin
- *Borderline (dimorphous)*: skin lesions characteristic of both the tuberculoid and lepromatous forms
- *Indeterminate*: early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features

#### *Laboratory criteria for diagnosis*

- Demonstration of acid-fast bacilli in skin or dermal nerve, obtained from the full-thickness skin biopsy of a lepromatous lesion

#### *Case classification*


*Confirmed*: a clinically compatible case that is laboratory confirmed

### **Information Needed for Investigation**

**Contact the Regional Communicable Disease Coordinator immediately upon notification of a case.** If not immediately available, contact the Section for Communicable Disease Prevention.

**Verify the diagnosis.** Determine what laboratory tests were conducted and the results.

**Describe the clinical illness.** Tuberculoid lesions may not typically have identifiable organisms in the initial laboratory examination.

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**Determine the travel history.** Even if travel is not recent, exposure outside the US should be noted.

### **Case/Contact Follow Up and Control Measures**

Determine the source of infection to prevent other cases.

- Most cases occur in immigrants and refugees.
- Due to the long incubation period, determining the source may be difficult.
- Verify if case has been in contact with a known or suspected infectious individual.
- Determine if the case is receiving appropriate medical treatment.

### **Control Measures**

See the Leprosy (Hansen's disease) section of the Control of Communicable Disease Manual (CCDM), "Control of patient, contacts and the immediate environment".

See the Leprosy section of the Red Book.

### **Laboratory Procedures**


#### **Specimens:**

The only laboratory tests used routinely for diagnosis of leprosy are skin smears and skin biopsies.<sup>(4)</sup> The Missouri State Public Health Laboratory, Tuberculosis Reference Laboratory does not culture for *M. leprae*. All laboratory specimens should be submitted with prior approval from and through the Missouri State Public Health Laboratory to the Centers for Disease Control and Prevention.

### **Reporting Requirements**

Hansen's Disease (Leprosy) is a Category II disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services in writing within three days of suspected or established diagnosis:

1. For confirmed and suspect cases, complete a "Disease Case Report" (CD-1).
2. For a confirmed case, complete a "Hansen's Disease Surveillance" form.
3. Send completed forms to the Regional Office.
4. Entry of appropriate information into the MOHSIS database will satisfy item 1 of this section. If not, item 2 and 3 cannot be satisfied with data entry.
5. Within 90 days of the conclusion of an outbreak, submit the final outbreak report to the Regional Communicable Disease Coordinator.

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## References

1. Chin, James ed. "Leprosy (Hansen disease)." Control of Communicable Diseases Manual. 17<sup>th</sup> ed. Washington, DC: American Public Health Association, 2000: 289-293.
2. American Academy of Pediatrics. "Leprosy." In: Peter G, ed. 2000 Red Book: Report of the Committee on Infectious Diseases. 24<sup>th</sup> ed. Elk Grove Village, IL. 1997: 323-325. (these page numbers do not reference Hansen's disease)
3. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions Under Public Health Surveillance. MMWR 1997;46 (No. RR-10): 15-16.
4. Jacobson, Robert R., and Yoder, Leo J. "Leprosy." Bacterial Infections of Humans Epidemiology and Control. 3<sup>rd</sup> ed. Eds. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998: 380.

## Other Sources of Information

1. Gelber, Robert H. "Leprosy (Hansen's Disease)." Principles and Practice of Infectious Diseases. 5<sup>th</sup> ed. Eds. Gerald L. Mandell, John E. Bennett, and Raphael Dolin. New York: Churchill Livingstone, 2000: 2608-2614.
2. Jacobson, Robert R., and Yoder, Leo J. "Leprosy." Bacterial Infections of Humans Epidemiology and Control. 3<sup>rd</sup> ed. Eds. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998: 377-393.

## Web Sites

1. Centers for Disease Control and Prevention - Hansen's Disease (Leprosy)  
[http://www.cdc.gov/ncidod/dbmd/diseaseinfo/hansens\\_t.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/hansens_t.htm) (4 June2003)

# **Hansen's Disease**

**(Leprosy)**

## **FACT SHEET**

### **What is Hansen's disease?**

Hansen's disease, formerly called leprosy, is a chronic bacterial disease of the skin, nerves in the hands and feet and, in some cases, the lining of the nose. Hansen's disease is a rare disease in the United States. It is endemic to Tropical and Sub-Tropical Asia, Africa, Central and South America, and the Pacific Region. Hansen's Disease although rare in the U.S. can be found in certain regions of the U.S. (California, Hawaii, Louisiana, Texas and Puerto Rico).

### **Who gets Hansen's disease?**

Anyone can get Hansen's disease, but children seem to be more susceptible than adults.

### **How do you get it?**

The exact way a person gets Hansen's disease is unknown, but being in the same household and long-term close contact are important factors. The bacteria of Hansen's disease probably enter the body through the nose, and possibly through broken skin. In children under the age of 1 year the transmission is probably transplacental.

### **What are the symptoms of Hansen's disease?**

The symptoms include skin lesions or discolorations that may be numb. The nerves in the arms and wrists may also become swollen and tender. If left untreated, Hansen's disease can cause nerve damage resulting in loss of muscle control and crippling of the hands and feet. If the eyes are involved, Hansen's disease may result in blindness.

### **When do symptoms start?**

It can take from nine months to twenty years for symptoms to appear but usually they will appear in four to eight years.

### **When and for how long is a person able to spread Hansen's disease?**

In most cases, a person will not infect others after taking medications for about three months.

### **What is the treatment?**

Early diagnosis and treatment of persons with the disease are the keys to preventing permanent disability and controlling the spread of disease. There are several effective medications that a doctor can prescribe.

### **How can Hansen's disease be prevented?**

Carefully wash or dispose of handkerchiefs and other items soiled with secretions from the nose and respiratory tract of Hansen's patients. The best way to prevent the spread of Hansen's disease is the early diagnosis and treatment of people who are infected. For household contacts, immediate and annual examination for at least five years after last contact with a person who is infectious is recommended.

**Missouri Department of Health and Senior Services**

**Section for Communicable Disease Prevention**

**Phone: (866) 628-9891 or (573) 751-6113**

# HANSEN'S DISEASE SURVEILLANCE FORM

NATIONAL HANSEN'S DISEASE PROGRAMS

1770 PHYSICIANS PARK DRIVE

BATON ROUGE, LA 70816

1-800-642-2477

<b>1 STATE</b> <div style="display: flex; gap: 10px;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div>	<b>2 DATE OF REPORT</b> <div style="display: flex; justify-content: space-around; font-size: small;"> Mo.      Day      Yr. </div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div>	<b>3 SOCIAL SECURITY NUMBER</b> <div style="border-bottom: 1px solid black; width: 100%;"></div>																																																												
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<b>12 Type of Leprosy:</b> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <b>1 <input type="checkbox"/> Paucibacillary</b>  <small>(Tuberculoid, Borderline Tuberculoid, Indeterminate)</small> </div> <div style="width: 30%;"> <b>2 <input type="checkbox"/> Multibacillary</b>  <small>(Mid-Borderline, Borderline lepromatous, Lepromatous Leprosy)</small> </div> <div style="width: 30%;"> <b>3 <input type="checkbox"/> Undetermined</b> </div> <div style="width: 10%;"> <b>4 Ridley-Jopling Classification, if known</b> </div> </div>																																																														
<b>13 Diagnosis of Disease:</b> Was Biopsy Performed? <input type="checkbox"/> Yes <input type="checkbox"/> No Date _____ / _____ / _____ Result _____ Skin Smear <input type="checkbox"/> Yes <input type="checkbox"/> No Date _____ / _____ / _____ BI: Positive _____ Negative _____	<b>14 Current Treatment for Leprosy:</b> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Dapsone    <input type="checkbox"/> Yes    <input type="checkbox"/> No    <input type="checkbox"/> Unknown   Rifampin    <input type="checkbox"/> Yes    <input type="checkbox"/> No    <input type="checkbox"/> Unknown </div> <div style="width: 45%;"> Clofazimine    <input type="checkbox"/> Yes    <input type="checkbox"/> No    <input type="checkbox"/> Unknown   Other HD Drugs    <input type="checkbox"/> Yes    <input type="checkbox"/> No  List: _____ </div> </div>																																																													
<b>15 Disability:</b> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Hands</u>  Yes / No    Yes / No  Sensory Loss    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>  Deformity    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/> </div> <div style="width: 30%;"> <u>Feet</u>  Yes / No    Yes / No  Lagophthalmos?    Yes <input type="checkbox"/>    No <input type="checkbox"/> </div> <div style="width: 30%;"> <u>Eye</u> </div> </div>	<b>16 Index Case, If Known:</b> _____  Has Patient Ever Touched Armadillos?    Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/>																																																													
<b>17 Current Household Contacts</b> Name/Relationship  1 _____ 2 _____ 3 _____ 4 _____ 5 _____	Residence in U.S.A., Or Other Countries, Starting From Present (Including Military Service): <table border="1" style="width:100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th rowspan="2">TOWN</th> <th rowspan="2">COUNTY</th> <th rowspan="2">STATE</th> <th rowspan="2">COUNTRY</th> <th colspan="2">INCLUSIVE DATES</th> </tr> <tr> <th>From Mo./Yr.</th> <th>To Mo./Yr.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						TOWN	COUNTY	STATE	COUNTRY	INCLUSIVE DATES		From Mo./Yr.	To Mo./Yr.																																																
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<b>18 Name and Address of Physician:</b> _____  Investigator: _____																																																														